

**WHAT IS CLAIMED IS:**

1. A dual-band antenna, comprising:  
a substrate;  
an inverted F antenna printed circuit supported by said substrate and tuned to resonate in a first frequency band; and  
a monopole antenna printed circuit supported by said substrate, connected to said inverted F antenna printed circuit and tuned to resonate in a second frequency band.
2. The antenna as recited in Claim 1 wherein said feed line is located on a different plane of said substrate from a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit is coupled to said feed line.
3. The antenna as recited in Claim 1 wherein said feed line is located on one surface of said substrate, said antenna further comprising a conductive interconnection coupling said feed line to a radiator of said inverted F antenna printed circuit located on an opposing surface of said substrate.
4. The antenna as recited in Claim 1 wherein a ground plane of said inverted F antenna printed circuit is coupled to and spaced

apart from both a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

5. The antenna as recited in Claim 1 wherein a ground plane of said inverted F antenna printed circuit is located on a different plane from said monopole antenna printed circuit.

6. The antenna as recited in Claim 1 wherein said monopole antenna printed circuit comprises first and second traces tuned to differing resonance in said second frequency band.

7. The antenna as recited in Claim 6 wherein said monopole antenna printed circuit further comprises a root trace from which said first and second traces extend.

8. The antenna as recited in Claim 6 wherein a footprint of a radiator of said inverted F antenna printed circuit lies between footprints of said first and second traces.

9. The antenna as recited in Claim 1 wherein said substrate is composed of a higher loss material and has a plurality of lower loss regions located proximate a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

10. The antenna as recited in Claim 1 wherein said first frequency band is lower than said second frequency band.

11. The antenna as recited in Claim 10 wherein said first frequency band is between about 2.4 GHz and about 2.5 GHz and said second frequency band is between about 5.2 GHz and about 5.8 GHz.

12. A wireless networking card, comprising:  
wireless networking circuitry;  
a dual-band transceiver coupled to said wireless networking circuitry; and  
a dual-band antenna coupled to said dual-band transceiver and including:  
a substrate,  
an inverted F antenna printed circuit supported by said substrate and tuned to resonate in a first frequency band, and  
a monopole antenna printed circuit supported by said substrate, connected to said inverted F antenna printed circuit and tuned to resonate in a second frequency band.

13. The wireless networking card as recited in Claim 12 wherein said feed line is located on a different plane of said substrate from a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit is coupled to said feed line.

14. The wireless networking card as recited in Claim 12 wherein said feed line is located on one surface of said substrate, said antenna further comprising a conductive interconnection coupling said feed line to a radiator of said inverted F antenna printed circuit located on an opposing surface of said substrate.

15. The wireless networking card as recited in Claim 12 wherein a ground plane of said inverted F antenna printed circuit is coupled to and spaced apart from both a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

16. The wireless networking card as recited in Claim 12 wherein a ground plane of said inverted F antenna printed circuit is located on a different plane from said monopole antenna printed circuit.

17. The wireless networking card as recited in Claim 12 wherein said monopole antenna printed circuit comprises first and second traces tuned to differing resonance in said second frequency band.

18. The wireless networking card as recited in Claim 17 wherein said monopole antenna printed circuit further comprises a root trace from which said first and second traces extend.

19. The wireless networking card as recited in Claim 17 wherein a footprint of a radiator of said inverted F antenna printed circuit lies between footprints of said first and second traces.

20. The wireless networking card as recited in Claim 12 wherein said substrate is composed of a higher loss material and has a plurality of lower loss regions located proximate a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

21. The wireless networking card as recited in Claim 12 wherein said first frequency band is lower than said second frequency band.

22. The wireless networking card as recited in Claim 21 wherein said first frequency band is between about 2.4 GHz and about 2.5 GHz and said second frequency band is between about 5.2 GHz and about 5.8 GHz.

23. The wireless networking card as recited in Claim 12 further comprising a second dual-band antenna coupled to said dual-band transceiver.

24. The wireless networking card as recited in Claim 23 further comprising a switch that selectively connects one of said first dual-band antenna and said second dual-band antenna to said dual-band transceiver and connects another of said first dual-band antenna and said second dual-band antenna to ground.

25. A method of manufacturing a dual-band antenna, comprising:

forming an inverted F antenna printed circuit on a substrate, said inverted F antenna printed circuit tuned to resonate in a first frequency band; and

forming a monopole antenna printed circuit on said substrate, said monopole antenna connected to said inverted F antenna printed circuit and tuned to resonate in a second frequency band.

26. The method as recited in Claim 25 wherein said feed line is located on a different plane of said substrate from a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit is coupled to said feed line.

27. The method as recited in Claim 25 wherein said feed line is located on one surface of said substrate, said antenna further comprising a conductive interconnection coupling said feed line to a radiator of said inverted F antenna printed circuit located on an opposing surface of said substrate.

28. The method as recited in Claim 25 wherein a ground plane of said inverted F antenna printed circuit is coupled to and spaced apart from both a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

29. The method as recited in Claim 25 wherein a ground plane of said inverted F antenna printed circuit is located on a different plane from said monopole antenna printed circuit.

30. The method as recited in Claim 25 wherein said monopole antenna printed circuit comprises first and second traces tuned to differing resonance in said second frequency band.

31. The method as recited in Claim 30 wherein said monopole antenna printed circuit further comprises a root trace from which said first and second traces extend.

32. The method as recited in Claim 30 wherein a footprint of a radiator of said inverted F antenna printed circuit lies between footprints of said first and second traces.

33. The method as recited in Claim 25 wherein said substrate is composed of a higher loss material and has a plurality of lower loss regions located proximate a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

34. The method as recited in Claim 25 wherein said first frequency band is lower than said second frequency band.



35. The method as recited in Claim 34 wherein said first frequency band is between about 2.4 GHz and about 2.5 GHz and said second frequency band is between about 5.2 GHz and about 5.8 GHz.